

**REMARKS**

Favorable reconsideration of this application, in light of the preceding amendments and following remarks, is respectfully requested. Claims 1, 2, 4, 5 and 7-32 are pending in the current application. By this Amendment, claims 1-2, 4-5, 10, 14-17 and 20-29 are amended. By this Amendment, no claims are added or cancelled. Claims 1, 14, 17, and 20-23 are the independent claims.

Because the amendments to the claims will more than likely raise new issues requiring a further consideration and/or search, Applicants have filed this Amendment along with a Request for Continued Examination ("RCE") to ensure its consideration. Any subsequent action other than a notice of allowance or Quayle action should be non-final.

**Claim Rejections – 35 U.S.C. § 101**

Claims 1, 2, 4, 5, and 7-19 stand rejected under 35 U.S.C. § 101 because the Examiner alleges the claimed invention is directed to non-statutory subject matter. For instance, the Examiner asserts that claims 1, 2, 4, 5, and 7-19 recite a computer readable medium which does not impart functionality to a computer or computing device, and is thus considered nonfunctional descriptive material. Applicants respectfully disagree.

As explained in Applicants' prior responses of June 19, 2008, January 31, 2008 and October 4, 2007, the Examiner has incorrectly characterized the computer readable medium of claim 1 as storing nonfunctional descriptive

material. To expedite prosecution and without conceding to the Examiner's current position, Applicants have amended claim 1 to recite:

1. A computer readable medium storing an executable data structure for managing reproduction of at least video data having multiple reproduction paths recorded on the computer readable medium by a preproduction device, comprising:

a data area storing at least a portion of the video data having multiple reproduction paths, the video data having multiple reproduction paths being divided into one or more interleaving units, each interleaving unit associated with one of the reproduction paths, each interleaving unit starting and ending with a reproduction path change point, the interleaving units associated with different reproduction paths being interleaved in the data area, and the video data in each interleaving unit being divided into one or more entry points; and

a management area separate from the data area, the management area being disposed in a lead-in area of the computer recordable medium, the lead-in area including a file system information area and a database area, the data area being adjacent to the management area on the computer readable medium, the management area storing management information for managing reproduction of the video data having multiple reproduction paths by the reproduction device, the management information including at least one entry point map associated with each reproduction path, each entry point map identifying the entry points in the video data for the associated reproduction path.

Applicants submit that the computer readable medium of amended claim 1 is functional descriptive material.

Again, the Examiner relies upon M.P.E.P. 2106.01(II) "Non-Functional Descriptive Material" as a basis for rejecting claims 1, 2, 4, 5, and 7-19 under 35 U.S.C. § 101. The Examiner's reliance upon this specific paragraph is misplaced. For a general review of what constitutes functional descriptive material and non-functional descriptive material, Applicants direct the

Examiner's attention to the entire section of M.P.E.P. 2106.01. In particular, MPEP § 2106.01 states the following.

In this context, "functional descriptive material" consists of **data structures** and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5<sup>th</sup> ed. 1993).) "Nonfunctional descriptive material" includes but is not limited music, literary works and a compilation or mere arrangement of data.

(emphasis added)

Data structures recorded on a computer readable medium may constitute statutory subject matter.

MPEP § 2106.01 goes on further to state:

Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, [*In re Warmerdam*,] 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (discussing patentable weight of data structure limitations in the context of a statutory claim to a data structure stored on a computer readable medium that increases computer efficiency) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory).

In view of the above, a more detailed discuss of *In re Warmerdam* and *In re Lowry* is warranted.

*Discussion of In re Warmerdam*

Claim 1 of In re Warmerdam recited:

1. A method for generating a data structure which represents the shape of [sic] physical object in a position and/or motion control machine as a hierarchy of bubbles, comprising the steps of:

first locating the medial axis of the object and

then creating a hierarchy of bubbles on the medial axis.

Claim 6 of In re Warmerdam recited:

6. A data structure generated by the method of any of Claims 1 through 4.

With respect to claim 1, the court found both steps drawn strictly to mathematical equations, and therefore non-statutory abstract ideas. In re Warmerdam, at 1759. The court went on to find that the data structure of claim 6 suffers from the same defect.

*Discussion of In re Lowry*

Claim 1 of In re Lowry recited:

1. A memory for storing data for access by an application program being executed on a data processing system, comprising:

a data structure stored in said memory, said data structure including information resident in a database used by said application program and including:

a plurality of attribute data objects stored in said memory, each of said attribute data objects containing different information from said database;

a single holder attribute data object for each of said attribute data objects, each of said holder attribute data objects being one of said plurality of attribute data objects, a being-held relationship existing between each attribute data object and its holder attribute data object, and each of said attribute data objects having a being-held relationship with only a single other attribute data object, thereby establishing a hierarchy of said plurality of attribute data objects;

a referent attribute data object for at least one of said attribute data objects, said referent attribute data object being nonhierarchically related to a holder attribute data object for the same at least one of said attribute data objects and also being one of said plurality of attribute data objects, attribute data objects for which there exist only holder attribute data objects being called element data objects, and attribute data objects for which there also exist referent attribute data objects being called relation data objects; and

an apex data object stored in said memory and having no being-held relationship with any of said attribute data objects, however, at least one of said attribute data objects having a being-held relationship with said apex data object.

In finding that the printed matter cases have no factual relevance to the claims at issue in In re Lowry, the court stated:

Nor are the data structures analogous to printed matter. Lowry's ADOs do not represent merely underlying data in a database. ADOs contain both information used by application programs and information regarding their physical interrelationships within a memory. Lowry's claims dictate how application programs manage information. Thus, Lowry's claims define functional characteristics of the memory.

In re Lowry, at 1034.

The court further noted:

Indeed, Lowry does not seek to patent the Attributive data model in the abstract. Nor does he seek to patent the content of information resident in a database. Rather, Lowry's data structures impose a

physical organization on the data.

In re Lowry, at 1034.

And, on the issue of abstract ideas, the Federal Circuit in In re Lowry noted:

More than mere abstraction, the data structures are specific electrical or magnetic structural elements in a memory. According to Lowry, the data structures provide tangible benefits: data stored in accordance with the claimed data structures are more easily accessed, stored, and erased. Lowry further notes that, unlike prior art data structures, Lowry's data structures simultaneously represent complex data accurately and enable powerful nested operations. In short, Lowry's data structures are physical entities that provide increased efficiency in computer operation.

In re Lowry, at 1035.

The claims at issue (e.g., amended claim 1) are analogous to the claims in In re Lowry, and as such are clearly statutory subject matter. Unlike the claims of In re Warmerdam, the claims of the subject application do not recite mathematical equations, or the generation of data structures using mathematical equations. Instead, as in In re Lowry, amended claim 1 recites a computer readable medium storing a specific executable data structure that dictates how a reproduction device manages data. Accordingly, because the computer readable medium recited in amended claim 1 includes a data structure storing an executable data structure that includes a data area and a management area, which provides management data for managing reproduction of data in the data area of the computer readable medium by a

reproduction device, claim 1 is clearly directed towards patentable, statutory subject matter.

In the language of MPEP §2106.01 regarding **functional** descriptive material, claim 1 is directed to “a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure’s functionality to be realized, and is thus statutory.” In light of the above, Applicants respectfully request that the rejection of independent amended claim 1, and claims depending therefrom, under 35 U.S.C. § 101 be withdrawn.<sup>1</sup>

In addition, Applicants have amended independent claims 14 and 17 to include features similar to amended claim 1, and therefore are patentable for at least the same reasons stated above. Claims 15-16 and 18-19, dependent on amended claims 14 and 17, are patentable for at least the same reasons stated above. Therefore, Applicants respectfully request the rejection of claims 1, 2, 4, 5, and 7-19 under 35 U.S.C. § 101 be withdrawn.

### **Claim Rejections - 35 U.S.C. § 103**

#### **Claims 1, 2, 4, 7-15, 17, 18, 20-24, 26 and 28-29**

Claims 1, 2, 4, 7-15, 17, 18, 20-24, 26 and 28-29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sawabe et al. (U.S. Patent No. 6,031,962, hereinafter “Sawabe”) in view of Kaneshige, et al. (U.S. Patent No.

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<sup>1</sup> The Examiner may also find it helpful to review AT&T Corp. v. Excel Communications Inc., 50 USPQ2d 1447 (Fed. Cir. 1999).

5,913,010, hereinafter “Kaneshige”). Applicants respectfully traverse this rejection for the reasons detailed below.

Applicants have amended claim 1 to recite, *inter alia*, “a data area for storing stream files”, “a playlist area for storing playlist files”, “a clip information area for storing clip information files”, and “the stream file, the clip information file, and the playlist file being logically separate.” Applicants submit that Kaneshige does not disclose these features.

First, Applicants submit that Kaneshige does not disclose “a playlist area for storing playlist files” as recited in claim 1. In fact, Kaneshige is silent in regards to a playlist concept. Second, Applicants submit that Kaneshige does not disclose “the stream file, the clip information file, and the playlist file being logically separate.” Rather, the control information of Kaneshige (e.g., VTSI) is intermixed throughout each VOBS.

For instance, FIG. 26 of Kaneshige shows video title set information (VTSI) in a video title set (VTS) area. The VTSI contains control data, such as “a video title set part-of-title search pointer table, in which entry points of titles and the like are described [e.g., VTS\_PTT\_SRPT].” See Kaneshige, column 15, lines 29-31. Referring to FIG. 16 of Kaneshige, the VTSI is included within the video title set (VTS) area. Also included within the video title set (VTS) area is a video object set (VOBS), which comprises multiple video objects that include multiple cells for storing video data. Referring to FIG. 16 of Kaneshige, for each VTS (e.g., VST #1, VST #2 through VST #n) the corresponding control data VTSI controls the video data associated with each VTS. In other words,



Kaneshige discloses control information for each VTS unit, but not “the clip information file, the playlist file and the stream file being logically separate” as required by claim 1.

Therefore, Kaneshige does not have the benefit of easily adding or deleting management information or video data from the computer readable medium reflected in claim 1. Accordingly, Kaneshige cannot disclose “the stream file, the clip information file, and the playlist file being logically separate” as recited in claim 1.

In addition, Kaneshige does not disclose an “entry point map” within the meaning of claim 1. The Examiner asserts that the “Video Title Set Part-of-Title Search Pointer Table (VTS\_PTT\_SRPT)” reads on the “entry point map” of claim 1. Applicants disagree. In an effort to further clarify this feature, Applicants have amended claim 1 to recite, *inter alia*, “the clip information file including an entry point map associated with a corresponding reproduction path of the multiple reproduction paths.” As stated in column 15, lines 29-31 of Kaneshige, the VTS\_PTT\_SRPT includes entry points of title. The VTS\_PTT\_SRPT is not associated with any reproduction path. Rather, the VTS\_PTT\_SRPT points to entry points of title irrespective of a reproduction path.

In addition, amended claim 1 further requires, “each entry point map associated with a corresponding stream file.” The VTS\_PTT\_SRPT of Kaneshige does not correspond to a stream file within the meaning of claim 1. Rather, the

VTS\_PTT\_SRPS includes entry points for all titles, irrespective of a particular stream file.

Sawabe fails to cure the deficiencies of Kaneshige. For instance, referring to FIGS. 6 and 7, Sawabe discloses a navi-pack that includes an address corresponding to the next navi-pack within a particular selected picture. Then, the next navi-pack includes the next corresponding navi-pack within the selected picture. Sawabe does not disclose “the clip information file including an entry point map associated with a corresponding reproduction path of the multiple reproduction paths” or “each entry point map associated with a corresponding stream file” as required by amended claim 1.

Independent claims 14, 17 and 20-23 are amended and contain features similar to amended claim 1 and are patentable for at least the same reasons stated above. Claims 2, 4, 7-13, 15, 18, 24, 26 and 28-29, dependent on claims 1, 14, 17 and 20-23, are patentable for at least the same reasons stated above. Therefore, Applicants respectfully request the rejection of claims 1, 2, 4, 7-15, 17-18, 20-24, 26 and 28-29 under 35 U.S.C. § 103(a) be withdrawn.

Claims 5, 16, 19, 25 and 27

Claims 5, 16, 19, 25 and 27 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sawabe in view of Kaneshige, and further in view of Sugimoto et al. (U.S. Patent No. 6,470,140, hereinafter “Sugimoto”). Claims 5, 16, 19, 25 and 27, dependent on claims 1, 14, 17 and 22-23, are patentable for at least the same reasons stated above. Furthermore, Sugimoto fails to cure

the deficiencies of Sawabe and Kaneshige. Therefore, Applicants respectfully request the rejection of claims 15, 16, 19, 25 and 27 under 35 U.S.C. § 103(a) be withdrawn.

**CONCLUSION**

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of the claims in connection with the present application is earnestly solicited.

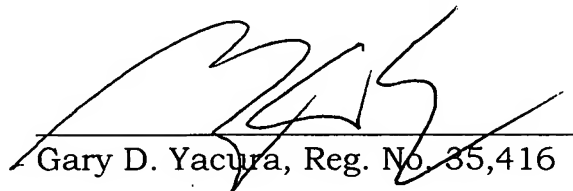
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Gary D. Yacura at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY, & PIERCE, P.L.C.

By

  
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